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Gen'l*

29 January 1960

MEMORANDUM FOR: C/DPD-DD/P

ATTENTION : C/Operations Branch

SUBJECT : 22 Magnum Pistol (.22 Cal. Winchester Magnum
Rimfire, WMR, Cartridge)

REFERENCE : Memorandum for C/TSS; DPD 0589-60, dated
25 January 1960

1. The .22 caliber, WMR, cartridge used in the .22 caliber Magnum pistols has a hollow point, jacketed bullet. It is not made in any other type. The hand guns utilizing this cartridge are all revolvers. In accordance with the above reference request the following information is advanced:

a. Muzzle Velocity

<u>Barrel Length (in)</u>	<u>Velocity (fps)</u>
4	1350
6	1560
8	1690
10	1780

Muzzle energy for a 6 $\frac{1}{2}$ " barrel is 210 ft-lbs.

b. Audible Range

The audible range of the .22 caliber WMR cartridge, regardless of hand gun type, is approximately 2-3 miles depending upon the local terrain.

c. Projectile Weight and Size

Weight - 40 grains

Size - 0.224" base diameter and approximately 7/16" long

d. Type of Powder and Load

The Winchester .22 WMR cartridge uses a ball powder (X2077) especially designed for this round. The round is loaded with 7.7 grains of this powder.

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The following data applies to a pistol with a 6" barrel utilizing a machine rest.

25 yards	$\frac{1}{2}$ " group
50 yards	1" group
100 yards	trajectory 2.3"

f. Pistol Weight and Barrel Lengths

There are available three manufactured types of pistols for the .22 W&M cartridge; Ruger, Smith and Wesson, and Colt. All of these pistols are revolver types. The Ruger "Single Six" (single action 6 $\frac{1}{2}$ " barrel weighs approximately 35 oz. loaded. The Smith and Wesson K-22 Masterpiece Target - 6" barrel weighs approximately 38 oz. loaded. The Colt Frontier Scout (single action) - 4-3/4" barrel weighs approximately 30 oz. loaded.

g. Suitability for Survival and E&E Purposes

Considering the cartridge was designed for varmint shooting, this round should be effective for small game. Although a rifle is superior for survival purposes, the data indicates that a pistol could be utilized. As an E&E aid, the .22 Magnum pistols are not of a concealable nature, such as the "Stinger". These weapons are standard type handguns. For personal protection at short ranges the .22 Magnum pistol should be effective. However, without guidance as to the exact intent or purpose desired it is difficult to answer this question.

h. Suitability for Silencer Modification

The .22 Magnum pistols, which are all revolvers, are not suitable for silencer modification. Due to the open head space between cylinder and barrel, common to all revolvers, it is impossible to prevent back blast from the weapon. The only type of revolver suitable for silencing, due to its peculiar cylinder action, is the Russian 7.62mm Nagant. If the muzzle velocity of round is reduced to less than 1000 fpe it is possible to achieve some silencing of pistols. However, with standard ammunition this is not possible.

i. Recommended Model and Cost

Of all the .22 caliber Magnum pistols on the market, the Smith and Wesson K-22 Masterpiece Target revolver 6" barrel is recommended. This weapon is double action while the other types

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are all single action. This weapon has adjustable rear sights for windage and elevation, other types do not. In addition the cylinder is the swing out type which allows for easier extraction of fired cases and quicker reloading than other types. The hand grip of the Smith and Wesson is conventional whereas the other type weapons are western style.

The cost of the Smith and Wesson .22 Caliber K-22 Masterpiece Target Revolver - 6" barrel is \$76.00, retail. Ammunition, Winchester .22 caliber WMR, 50 rounds - \$2.60.

2. Should any further information be required please contact the undersigned or



Chief *[Signature]*
TIS/Engineering Division

DD/P/TSC/ED at

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ROUTING AND RECORD SHEET

SUBJECT: (Optional)

FROM:

NO.

Chief, Operations Branch, DPD-DD/P

DATE

22 January 1960

TO: (Officer designation, room number, and building)

DATE

OFFICER'S INITIALS

COMMENTS (Number each comment to show from whom to whom. Draw a line across column after each comment.)

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1. Chief, TSS
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DPD 0589-60

25 JAN 1960

MEMORANDUM FOR: Chief, Technical Services Staff

ATTENTION: Chief, Engineering Division

SUBJECT: 22 Magnum Pistol

1. It is requested that the following specific information be provided on the 22 Magnum Pistol:

- a. Muzzle Velocity *Energy*
- b. Audible Range *noise*
- c. Bullet Weight and Size
- d. Type of Powder and Amount
- e. Trajectory Data
- f. Pistol Weight
- g. Barrel Lengths Available
- h. Suitability for Survival and E & E Purposes
- i. Suitability for Silencer Modification
- j. Recommended Model and Cost

2. It is requested that the above information be provided as soon as possible. Any questions or comments should be referred to DPD/AS, extension

STANLEY W. BEERLI
Chief, Operations Branch
DPD-DD/P

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